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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**ORDER NO. 96-041**

**UPDATED WASTE DISCHARGE REQUIREMENTS AND RESCISSION OF ORDERS NO.  
86-042 AND 95-063**

**BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.  
VASCO ROAD SANITARY LANDFILL  
CLASS III SOLID WASTE DISPOSAL SITE  
LIVERMORE, ALAMEDA COUNTY**

**The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:**

- 1. Browning Ferris Industries of California, Inc. (hereinafter called the discharger) owns and operates the Vasco Road Sanitary Landfill (Vasco Road Landfill), a Class III municipal refuse disposal site located in the unincorporated area of Alameda County north of the City of Livermore. The Vasco Road Landfill began operation in 1962 and was originally owned by Ralph Properties Inc. and operated by DePaoli Equipment Company until 1989, when the site was purchased by the discharger.**
- 2. The site is located adjacent to the northeast portion of the Livermore Valley on the north side of the Diablo Range (Figure 1). Access to the site is from the Vasco Road interchange on I-580 and from there north 3 miles on Vasco Road to the private access road.**
- 3. The purpose of this order is to update Waste Discharge Requirements for the ongoing construction and operation of a Class III landfill.**

**SITE DESCRIPTION**

- 4. The discharger operates the Vasco Road Landfill as a canyon-fill that is constructed in intermediate phases until the ultimate configuration is reached. The discharger's property is divided into four parcels which combined occupy approximately 652.0 acres. The landfill disposal area consists of 323.4 acres, of which 262.8 acres are known as Area X (Figure 2). Area X has a permitted disposal area of approximately 262.8 acres. However, only approximately 244 acres within Area X can actually receive waste since the discharger is required to maintain a 200 foot wide buffer zone between the Eastern Strand of the Greenville Fault and any future waste disposal areas. The permitted Area X disposal area is comprised of the following sub-areas:**
  - The original 62.6-acre unlined disposal area was used for the disposal of Class III waste (residential, commercial and construction/demolition). The unit will receive**

clean fill until the remaining capacity of approximately 200,130 cubic yards is filled.

- Disposal Unit 1 covers approximately 3.5 acres and is unlined. The unit was used for the disposal of Class III waste. The unit will receive clean fill until the remaining capacity of approximately 22,850 cubic yards is filled.
- Disposal Unit 2 covers approximately 9.5 acres and is unlined. The unit was used for the disposal of Class III waste. The unit will receive clean fill until the remaining capacity of approximately 768,430 cubic yards is filled.
- Disposal Unit 3 covers approximately 4.5 acres and is unlined. The unit was used for the disposal of Class III waste. The unit will receive clean fill until the remaining capacity of approximately 19,740 cubic yards is filled.
- Disposal Unit 4 covers approximately 4.3 acres and is partially (about 60%) lined with one foot of clay with a hydraulic conductivity of less than or equal to  $1 \times 10^{-6}$  cm/sec. The unit was used for the disposal of Class III waste. The unit will receive Class III waste until the remaining capacity of approximately 371,280 cubic yards is filled.
- Disposal Unit 5 covers approximately 16.3 acres and is lined with one foot of clay with a hydraulic conductivity of less than or equal to  $1 \times 10^{-6}$  cm/sec, and a 60-mil thick HDPE geomembrane on most side slopes. The unit was used for the disposal of Class III waste, and designated waste requiring special handling (industrial wastes: ashes, treated auto shredder waste, petroleum contaminated soils, sewage and wastewater sludges, industrial sludges, industrial filters, drilling muds, treated wood, and other nonhazardous waste). The unit will receive Class III waste until the remaining capacity of approximately 580,280 cubic yards is filled.
- Disposal Unit 6 (DU-6) covers approximately 26.8 acres and contains a Title 40, Part 258 of the Code of Federal Regulations (Subtitle D) containment system. The unit has been and will be used for the disposal of Class III waste, and designated waste requiring special handling (industrial wastes including: ashes, treated auto shredder waste, petroleum contaminated soils, sewage and wastewater sludges, industrial sludges, industrial filters, drilling muds, treated wood, and other nonhazardous waste) until the remaining capacity of approximately 2,079,360 cubic yards, which includes the 1996 portion of DU-6 is filled.
- An undeveloped portion of Area X which measures approximately 110.2 acres will be designed and constructed in accordance with the appropriate regulations at the time of development. The area will receive Class III waste and designated waste requiring special handling. The remaining capacity is 15,110,740 cubic yards.
- A portion west of Disposal Unit 1 and Disposal Unit 5 measures approximately 6.5 acres. No waste will be placed in this area.
- The remaining 79.4 acres are not part of Area X and plans for filling have not been submitted to the Board.

5. The Board adopted Waste Discharge Requirements Order No. 86-042 on June 20, 1986. Order No. 93-113 adopted by the Board on September 15, 1993, amended Order No. 86-042 and updated the groundwater monitoring and waste containment system requirements for the Vasco Road Landfill operations consistent with the requirements of Article 5, Title 23, Division 3, Chapter 15 of the California Code of Regulations

(Chapter 15), and Subtitle D. Order No. 95-063 amended Order No. 86-042, by permitting the Vasco Road Landfill to dispose of designated waste with elevated concentration limits in properly designed and constructed waste disposal units. Additionally, the discharger is required to monitor two surface water stations in accordance with the National Pollution Discharge Elimination System (NPDES) stormwater permit (No. 201S000374).

## **WASTES AND THEIR CLASSIFICATION**

6. The discharger is permitted to dispose of the following wastes at the Vasco Road Landfill:
  - a. Municipal solid wastes, construction waste and demolition waste, and non-hazardous industrial waste (including but not necessarily limited to: asbestos, ash, treated auto shredder waste (TASW), petroleum contaminated soils, lead contaminated soils, sewage and wastewater treatment sludges, industrial sludges, and industrial filters from cleaning processes).
  - b. Asbestos containing waste may only be disposed to land at the landfill in accordance with Section 25143.7 of the Health and Safety Code and Sections 66268.29 (m), 66268.100 (a)(13) and 66268.114 of CCR Title 22.
  - c. The Vasco Road Landfill is classified as a Class III landfill. However, Disposal Unit 6 has been designed and constructed to be in full compliance with the requirements of Subtitle D, and meets the siting criteria and design requirements for a Chapter 15 Class II waste management unit. The construction standards of DU-6 provide a lower risk of water quality degradation than is generally afforded by Class III landfills. Based on the above determination, the Board has previously found that Class II designated wastes are permitted for disposal only in DU-6 or similarly designed and constructed units (ref. Order No. 95-063). This Order remains consistent with the Board's prior approval (Order No. 95-063) which permits the discharger to dispose of Class II designated waste in DU-6 or in any similarly designed and constructed units in the future.

## **GEOLOGY**

7. The landfill lies within the Northern Diablo Range along the Altamont Anticline. The eastern portion of the site is underlain by the Panoche Formation and to the west by the Cierbo Formation. The Panoche Formation is of Cretaceous age and consists of two separate units. The first unit consists of clayey, micaceous shale and siltstone with some locally occurring sandstone interbeds. The second unit consists of resistant sandstone beds with interbedded shale and siltstone. The Panoche Formation rocks alone have relatively low laboratory hydraulic conductivities of intact core samples ranging from  $10^{-8}$  to  $10^{-7}$  cm/sec. However, groundwater flow is primarily controlled

through fracture flow which insitu hydraulic conductivity tests have demonstrated range from  $10^{-4}$  to  $10^{-3}$  cm/sec.

8. The Cierbo Formation is of Upper Miocene age and consists of fine to coarse grained sandstone with some interbeds of shale and siltstone. This formation occurs under a small portion along the western edge of the permitted portion of Area X. The laboratory hydraulic conductivity of the Cierbo Formation ranges from approximately  $10^{-6}$  to  $10^{-5}$  cm/sec and the in-situ hydraulic conductivity ranges from  $10^{-4}$  to  $10^{-3}$  cm/sec. The insitu bedrock hydraulic conductivity is higher than the laboratory tests because groundwater flow is primarily through bedrock fractures.

9. Structure:

Two modes of structural deformation have affected the rocks in the vicinity of the landfill. Compressional forces beginning in Pliocene time caused the rise of the Altamont Anticline and the resulting west dipping strata of the site. Contemporaneous strike slip faulting caused development of the active Greenville Fault located immediately west of the site.

The Greenville Fault is a Holocene age active fault which has shown evidence of displacement within the past 11,000 years. The Eastern Strand of the Greenville Fault is located outside the revised western boundary of Area X. The main trace of the Greenville Fault lies approximately 800 feet to the west of the Eastern Strand along Vasco Road. The limit of the waste fill boundary (Figure 3 and Figure 4) provides a 200 foot setback from the Eastern Strand to provide a buffer zone between the active Fault trace and the limit of waste. There are no known Holocene-active faults within the limits of the remaining permitted portion of Area X. However, additional field investigations are required as future excavation and development of the landfill occurs.

The Greenville Fault produced a 5.2 Richter Magnitude earthquake on January 26, 1980; the epicenter of the quake was located 1/2 mile southwest of the landfill. The earthquake was of shallow focus and did considerable damage in the Livermore Valley and east Mt. Diablo areas. However, only minor, discontinuous surface rupture was observed on several strands of the Greenville Fault (California Division of Mines and Geology, Fault Evaluation Report No.117, 1981).

## **SURFACE WATER AND GROUNDWATER**

10. Surface Water:

Surface water is monitored at two locations at the landfill identified as SR-1 and SR-2 as shown on Figure 4. Surface water discharge from the site flows into an intermittent drainage channel located along Vasco Road. The drainage channel flows into Kellogg Creek which merges into Altamont Creek and Arroyo Las Positas Creek, which eventually flows into Alameda Creek and San Francisco Bay. The above named tributaries also recharge the Livermore Valley Groundwater Basin which is used for municipal water supply for the local residents.

The mean annual precipitation for the site was calculated to be approximately 14 inches per year. The 100 year, 24-hour storm event was estimated to be 3.69 inches. The 1000 year, 24-hour storm event was estimated to be 4.82 inches. The mean annual evaporation was estimated to be 72.5 inches per year.

The landfill contains three sedimentation ponds (Pond #1, Pond #2, and Pond #3). (Figure 3)

11. Groundwater:

The Vasco Road Landfill is located in the Altamont Subbasin of the Livermore Valley Groundwater Basin. The Livermore Valley Groundwater Basin is managed by the Alameda County Flood Control District and Water Conservation District - Zone 7. The Livermore Valley Groundwater Basin provides an important source and reservoir of drinking water for approximately 100,000 residents of the Livermore Valley. The Altamont Subbasin is bounded on three sides by non-water bearing rocks and on the fourth side by the Carnegie Fault, which separates this subbasin from the Spring Subbasin to the west. Groundwater in the Altamont Subbasin occurs in valley-fill materials which are estimated to be up to 200 feet in thickness. Groundwater in the Altamont Subbasin is generally of poor quality and contains elevated levels of sodium chloride (>350 ppm) and boron (> 2ppm), and is reflective of much of the surface water draining marine sediments to the east. However, the Water Quality Solid Waste Assessment Test investigation for the landfill, prepared in 1988 reported there were ten active domestic or agricultural wells located within one mile of the site.

According to a 1974 Department of Water Resources report (Bulletin 118-20) there is very little subsurface outflow from the Altamont Subbasin.

12. Groundwater occurs at the site in three different water bearing units: alluvium, Cierbo Formation, and Panoche Formation. Groundwater is encountered in the surficial alluvium at depths ranging from 5 to 7.5 feet below the ground surface. This groundwater flows, and occurs, in the alluvium that is approximately coincident with the site topography. Shallow groundwater exists at the landfill, and at some areas there is not a minimum of five feet of separation between the groundwater and the waste. Consequently, a blanket underdrain system is required in all future expansion areas of the site, unless an alternative is approved by the Board staff.
13. Groundwater levels in the Cierbo Formation ranges from three to 47 feet below the ground surface. Groundwater levels in the Panoche Formation range between three and 34 feet below the ground surface. Groundwater within both formations occurs under confined or semi-confined conditions.

14. **Groundwater degradation:**  
Low levels of several volatile organic compounds (VOCs) were detected in the alluvial water bearing unit groundwater in the landfill toe area in the past. A groundwater extraction trench was installed at the mouth of the canyon in 1990 to intercept impacted groundwater. Currently, groundwater from the extraction trench meets drinking water standards.
15. Shallow alluvial groundwater monitoring well MW-27 has intermittently detectable concentrations of dichloroethene, and trichloroethene since April 24, 1991. The three lysimeters installed beneath DU-4 have detected volatile organic compounds in 1993. The DU-4 lysimeters routinely have been dry during sampling since late 1993.
16. **Background water quality:**  
Background water quality levels for several indicator parameters have been established in accordance with the discharger's June 1, 1994 submittal and are identified in the appendix of the discharger's monitoring reports. However, not all background water quality levels have yet been established for all the monitoring points at the landfill.
17. **Beneficial Uses:** The existing beneficial uses of the Livermore Valley Groundwater Basin include:
- Municipal and domestic water supply
  - Agricultural supply
  - Industrial service water supply
  - Industrial process water supply
- The beneficial uses of Alameda Creek are as follows:
- Water contact recreation
  - Non-water contact recreation
  - Warm and cold water habitat
  - Fish migration and spawning
  - Commercial and sport fishing
  - Wildlife habitat
  - Municipal and domestic supply
  - Agricultural supply
  - Industrial supply
  - Groundwater recharge

## **GROUNDWATER MONITORING SYSTEM**

18. The discharger currently monitors 34 monitoring points which are used to establish groundwater contours at the landfill. The landfill's current constituent groundwater monitoring system consists of four alluvial monitoring wells (MW-13, MW-27, MW-32, and MW-54) and 7 bedrock monitoring wells (MW-17, MW-29, MW-36, MW-37, MW-39, MW-42, and MW-48). Wells used for constituent monitoring meet the requirements for detection monitoring systems as stated in Article 5 of Chapter 15.

## **DEVELOPMENT AND CLOSURE PLANS**

19. The discharger has not prepared detailed development plans for the landfill. The discharger has submitted a 1993 preliminary closure and post closure maintenance plan for the landfill. Closure of all units without liner and leachate collection systems shall proceed according a plan and schedule approved by the Board staff.

## **FINANCIAL ASSURANCE DOCUMENTATION**

20. The Discharger is required pursuant to Title 14, and Title 23 of the California Code of Regulations, to submit to this Board evidence of an **Irrevocable Postclosure Fund** or provide other financial means acceptable to the Executive Officer, to ensure closure and post closure maintenance of the landfill. The discharger has provided financial assurance documentation in a submittal dated December 21, 1994. The discharger's documentation has been approved by the California Integrated Waste Management Board.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

21. This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15308, Title 14 of the California Code of Regulations.

## **COMMENTS**

22. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This Order implements the water quality objectives stated in that plan and its subsequent amendments.
23. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.
24. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the discharger, its agents, successors and assigns may discharge waste at the Vasco Road Landfill providing compliance is maintained with regulations adopted under Division 7 of the California Water Code and with the following:

**A. PROHIBITIONS**

1. The disposal of waste shall not create a condition of pollution or nuisance as defined in Section 13050 (1) and (m) of the California Water Code.
2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.
3. No waste will be placed further west of the existing footprint nor within 200 feet of any Holocene fault which includes the Eastern Strand of the Greenville Fault.
4. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.
5. Leachate from wastes and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States.
6. Wastes not specified in this Order, and hazardous wastes, as defined in Sections 2521 of Chapter 15, shall not be deposited or stored at this site.
7. The discharger shall not discharge wastes which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the unit, could produce chemical reactions that create heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:
  - a. require a higher level of containment than provided by the unit,
  - b. are "restricted hazardous wastes " (as defined in Section 25122.7 of the Health and Safety Code, or
  - c. impair the integrity of the containment structures.
8. Construction of the containment features at the Vasco Road Landfill must be in compliance with this Order and Chapter 15. Wastes shall not be placed in any area of the Vasco Road Landfill until the Executive Officer has received an approved certification by a California registered civil engineer or certified engineering geologist that the waste containment systems have been constructed in accordance with the landfill's waste containment system design plans.



9. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State or of the United States at any place outside the waste management facility:

a. Surface Waters

Floating, suspended, or deposited macroscopic particulate matter or foam.

Bottom deposits or aquatic growth.

Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

Visible, floating, suspended or deposited oil or other products of petroleum origin.

Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

The groundwater shall not be degraded as a result of the waste disposal operation.

**B. SPECIFICATIONS**

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.
2. Water used during disposal operations shall be limited to dust control, fire suppression and earthfill moisture conditioning.
3. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100-year, 24 hour precipitation event, or as the result of flooding with a return frequency of 100 years.
4. Surface drainage from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through waste during disposal operations or during the postclosure life of the site. Drainage courses constructed over intermediate covered fill areas shall be maintained to prevent exposure of wastes. Drainage courses constructed over final capped wastes will be underlain with a minimum 5-foot thickness of compacted earthfill or a lined drainage course which offers equivalent protection.

5. The leachate monitoring and control system shall be maintained and operated to prevent the buildup of hydraulic head on the bottom of the landfill as well as the toe of the landfill. This system shall be periodically inspected, and any accumulated fluid shall be removed to the maximum extent possible.
6. A geologic map of the base of the excavation shall be continuously updated as excavation proceeds. This includes, but is not limited to, all fracture and shear zones, and areas where there is not a five foot separation between groundwater and the waste.
7. Future waste containment systems installed at the site shall have a LCRS layer on the floor and side slopes immediately above the liner. The LCRS shall be designed and operated to prevent the development of hydraulic head on the liner. Minimum criteria for the floor liner shall include, but not be limited to a one foot thick granular underdrain, two feet of low permeability clay, 80 mil HDPE liner, and a LCRS. Minimum requirements for the floor and typical requirements for the side slope liner systems are included in Figure 5. All liner designs must be approved by Board staff prior to installation.
8. The discharger shall ensure that the foundation of the site, the refuse fill, the structures which control leachate, surface drainage, erosion, and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
9. Hazardous wastes and infectious wastes shall not be disposed of at this landfill. Waste approved for disposal at this landfill must be discharged in accordance with all regulations and provisions of the California Integrated Waste Management Board, California Department of Toxic Substance Control, local health and land use agencies' requirements.
10. The site will be constructed to prevent migration of leachate into the Fault zone and will be maintained to repair any damage to leachate control and monitoring facilities that may result from an earthquake.
11. The undeveloped permitted portion of Area X shall be designed and constructed in compliance with Chapter 15 and this Order. The final design plans shall be submitted to the Executive Officer for review and approval and shall include, but not be limited to, the engineered design plans for the project, the construction specifications, a construction quality assurance (QA/QC) plan, and a detailed sampling and analysis plan for the discharge monitoring program. The final construction report shall include, but not be limited to, construction record drawings (as-built drawings) for the project, a QA/QC report with a written summary of the QA/QC program and all test results and analyses, and construction certification.

12. As portions of the landfill are closed, the exterior surfaces shall be graded to promote lateral runoff of precipitation and prevent ponding. The final cover for the landfill will have a minimum slope of three percent plus an allowance for subsidence. The final cover of the entire landfill shall have a permeability less than or equal to the permeability of any bottom liner. The final cover must also meet all other applicable requirements as described in this Order, Article 8 of Chapter 15, Title 14, and Part 258.60 of Title 40 of the CFR.
13. The discharger shall operate the waste management facility so as to prevent a statistically significant difference to exist between water quality of the background water and water passing the point of compliance as provided in Section 2550.5, Article 5 of Chapter 15.
14. The concentrations of indicator parameters or waste constituents in waters passing through the point of compliance, as defined in Section 2550.2 of Article 5, Chapter 15, shall not exceed the "Water Quality Protection Standard" (WQPS), of the Self-Monitoring and Reporting Program.
15. Pursuant to Section 2550.3 of the Article 5, Chapter 15, these Waste Discharge Requirements specify the constituents of concern to which the water quality protection standard of Section 2550.2 of Article 5 applies. Constituents of concern are the waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the landfill. For this landfill the constituents of concern include all Subtitle D, Appendix I and Appendix II constituents.
16. In the event of a release of a constituent of concern beyond the Point of Compliance, the site begins a Compliance Period (Sect. 2550.6(a)). During the Compliance Period, the discharger shall perform an Evaluation Monitoring Program and a Corrective Action Program.
17. The discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Self-Monitoring Reporting Program issued by the Executive Officer.
18. Interim cover shall be maintained over all waste, at all times, except for the active face area of the disposal operations, or as provided for by the performance standards adopted by the California Integrated Waste Management Board.
19. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.

20. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of waste discharge or related operations during the operational and postclosure maintenance periods.
21. The discharger shall provide a minimum of two surveyed permanent monuments near the landfill from which the vertical and horizontal position of wastes, containment structures, and monitoring facilities can be determined throughout the operational and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
22. The Board shall be notified immediately of any slope failure occurring at the landfill. Any failure which potentially compromises the integrity of containment structures or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
23. The discharger shall notify the Board at least 180 days prior to beginning any intermediate or final closure activities. This notice shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.
24. The discharger shall comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.

#### **C. PROVISIONS**

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.
2. The discharger shall submit a revised discharge monitoring program for the landfill, pursuant to Article 5 of Chapter 15. The WQPS to be proposed by the discharger shall consist of the five elements required by Article 5; 1) a list of constituents to be monitored for; 2) the concentration limits to be used in statistical analysis; 3) the Point Of Compliance; 4) the addition of monitoring points; and 5) the Compliance Period in the event of a detected leak.  
**REPORT DUE DATE: July 20, 1997**
3. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 6.5 or greater at or within 30 miles of the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to the Board within 72 hours of the occurrence of the earthquake.

Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.

**REPORT DUE DATE:** May 20, 1996

4. The discharger shall submit to this Board and, unless otherwise exempted, to the California Integrated Waste Management Board, evidence of an Irrevocable Closure Fund or provide other means to ensure closure and postclosure maintenance of waste management units at the landfill, pursuant to Section 2580(f) of Chapter 15. The Closure Fund must provide sufficient funds to properly close the landfill and for the post-closure monitoring, leachate management, and maintenance of the site. For the purposes of planning the amount of the fund, the discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.

**REPORT DUE DATE:** November 1998, and every five years thereafter.

5. As the landfill expansion areas are filled the discharger shall close previous landfill units. The discharger shall submit a revised closure plan and schedule which calls for the closure of existing unlined landfill units by the year 2000. The revised closure plan should limit the extent of intermediate cover and maximize the extent of final cover.

**SCHEDULE DUE DATE:** July 20, 1996

6. The discharger shall submit a revised surface drainage plan, and surface water drainage operation and maintenance plan for the landfill.

**REPORT DUE DATE:** June 20, 1996

7. The discharger shall submit a plan and schedule for abandoning damaged leachate extraction wells LW-4 and LW-5.

**PLAN DUE DATE:** August 20, 1996

8. The discharger shall submit a Contingency Plan to be instituted in the event of a leak or spill from the leachate facilities. The discharger shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.

**REPORT DUE DATE:** September 20, 1996.

9. The discharger shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has been closed according to the requirements of this Order and Chapter 15. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

10. The Discharger shall comply with the requirements of the attached Self Monitoring and Reporting Program.
11. The discharger shall comply with the requirements of Board Order No. 93-113 which establishes general waste discharge requirements for all municipal solid waste landfills regulated by this Board.
12. The discharger shall once every two years submit an updated geologic map, beginning with the 1997 annual report. The information will be useful for evaluating site conditions as the landfill expands.
13. The discharger shall remove and relocate any wastes which are discharged after the date of adoption of this Order in violation of these requirements.
14. The discharger shall submit a dynamic or pseudo-static analysis which, within the limits of engineering analysis, demonstrate that landfill slopes meet the engineering slope stability standard. No refuse shall be placed in the undeveloped permitted portion of Area X until this analysis has been approved by the Executive Officer.
15. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of the waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.
16. The discharger shall immediately notify the Board of any event which in any way might compromise the integrity of the waste, leachate, or gas containment facilities or precipitation and drainage control structures.
17. The discharger shall maintain all devices or designated features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.
18. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.
19. The discharger shall permit the Board or its authorized representative, upon presentation of credentials:
  - a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
  - b. Access to copy any records required to be kept under the terms and conditions of this Order.

- c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order or by any other California state agency.
  - d. Sampling of any discharge or ground water governed by this Order.
20. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.
21. This Order is subject to Board review and updating, as necessary, to comply with changing state or federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.
22. Board Orders No. 86-042 and No. 95-063 are hereby rescinded.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 20, 1996.



Loretta K. Barsamian  
Executive Officer

**Attachments:**

- Figure 1. Landfill Location Map
- Figure 2. Landfill Map
- Figure 3. Limit of Waste Map
- Figure 4. Monitoring Point Map
- Figure 5. Minimum Liner Construction Requirements
- Self Monitoring and Reporting Program

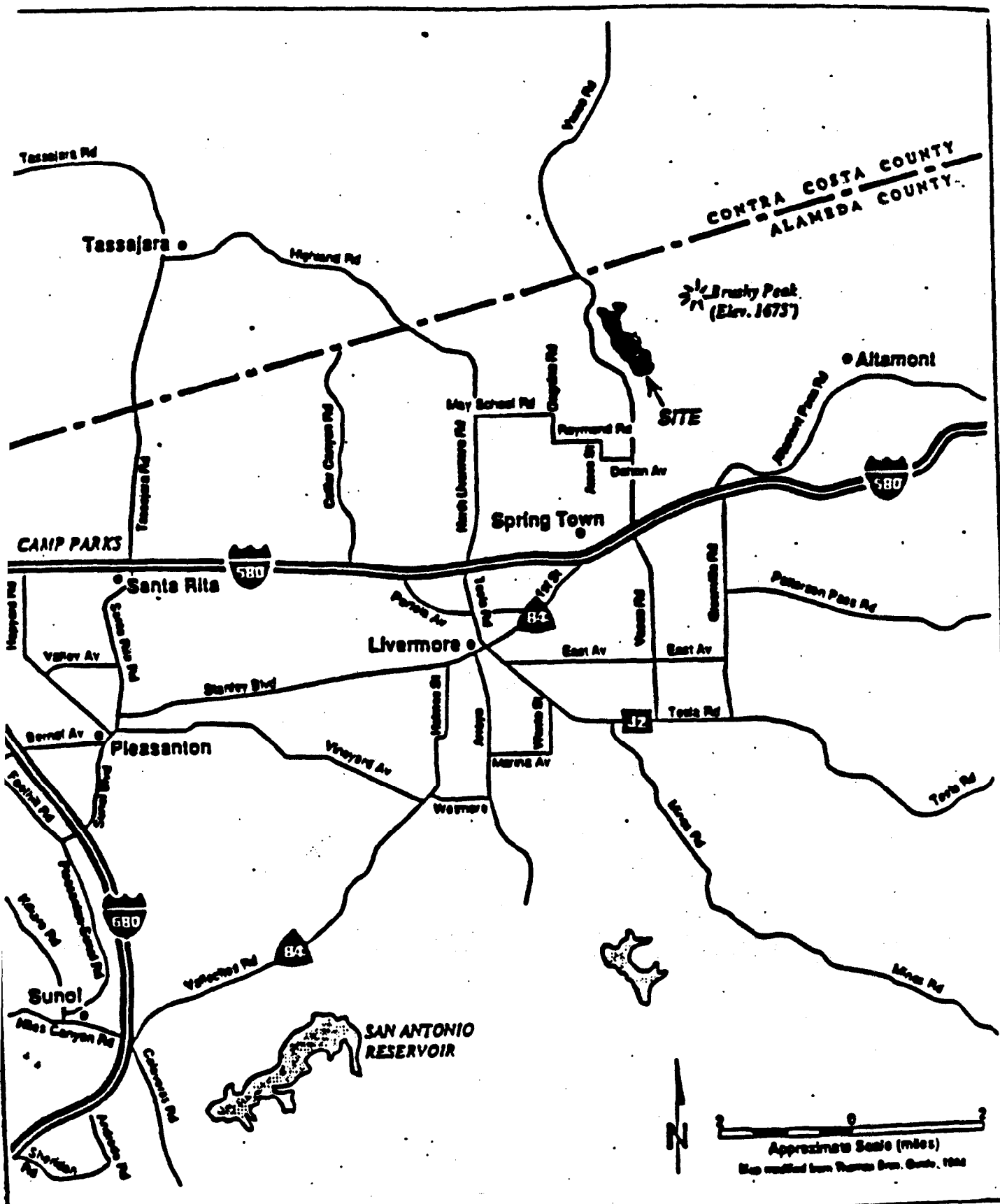
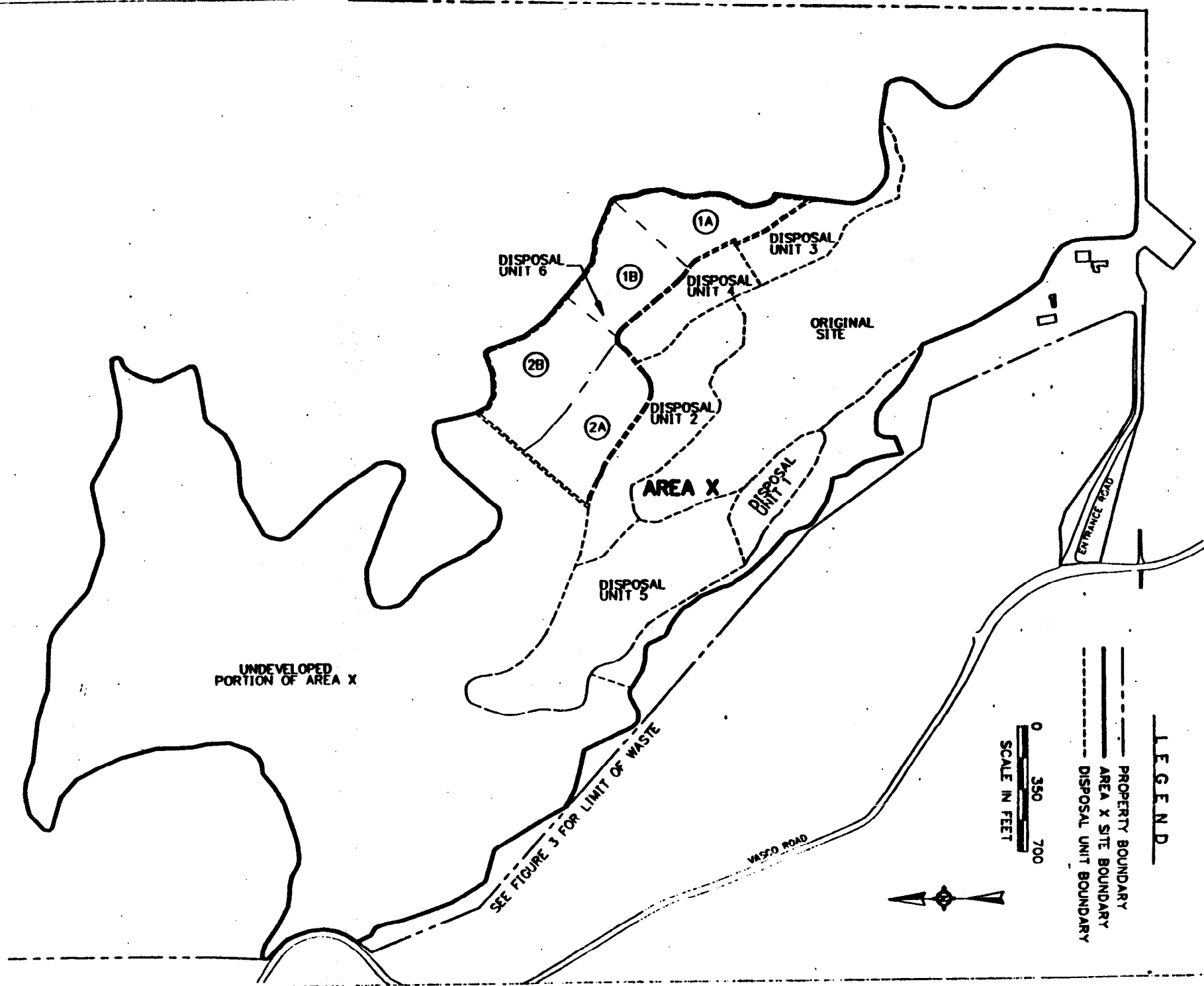
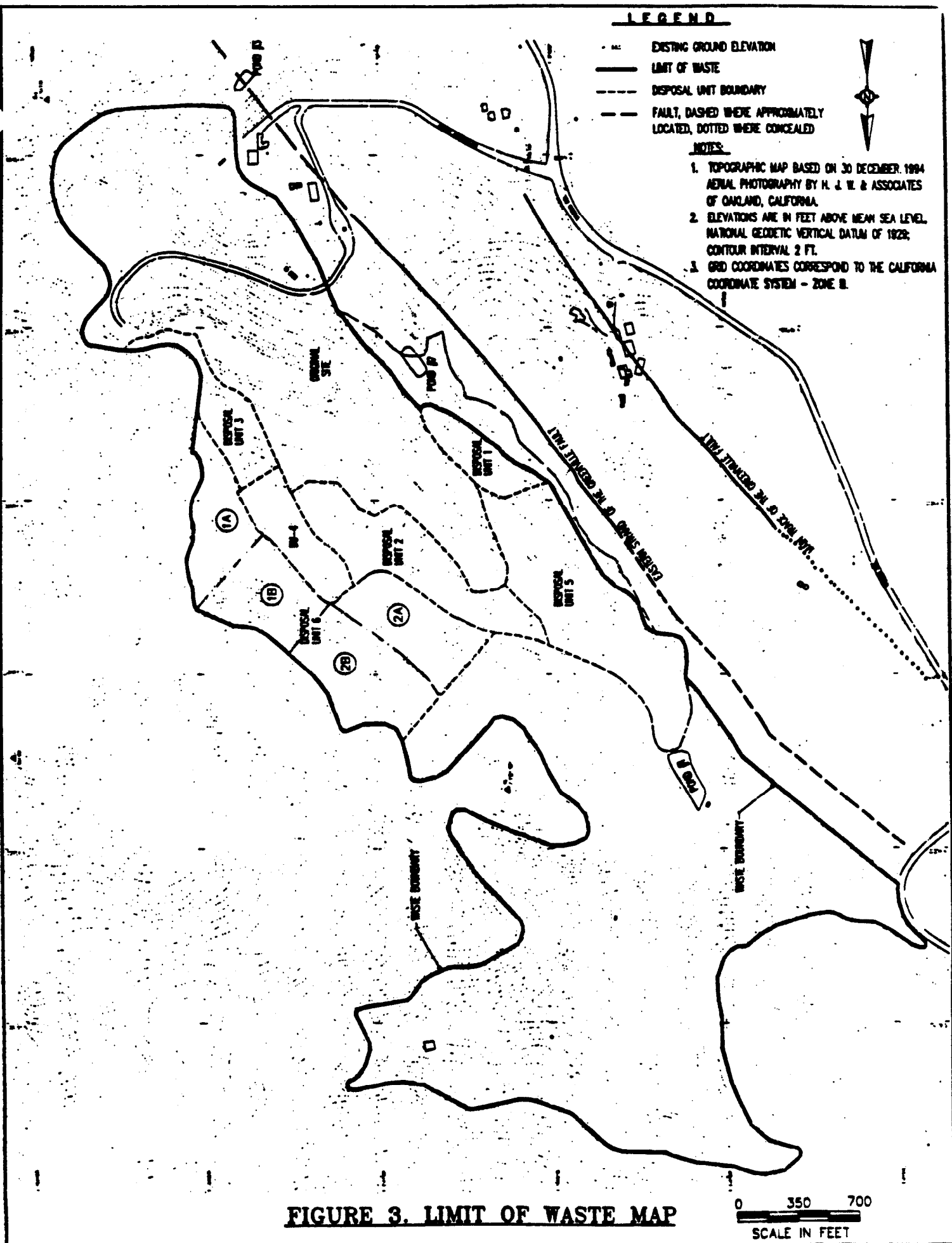


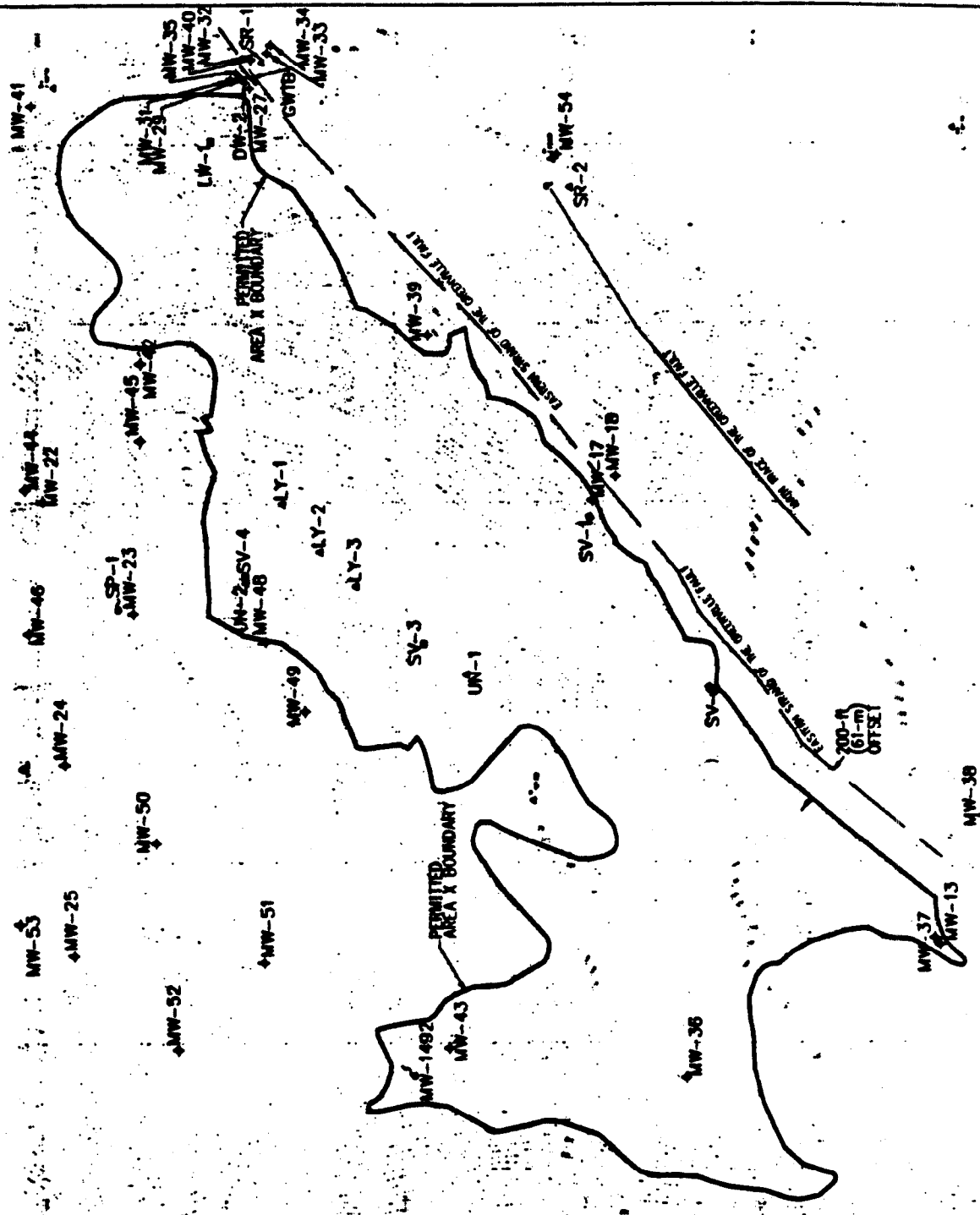
Figure 1. Landfill Location Map



FIGURE 2. LANDFILL MAP







# **LEGEND**

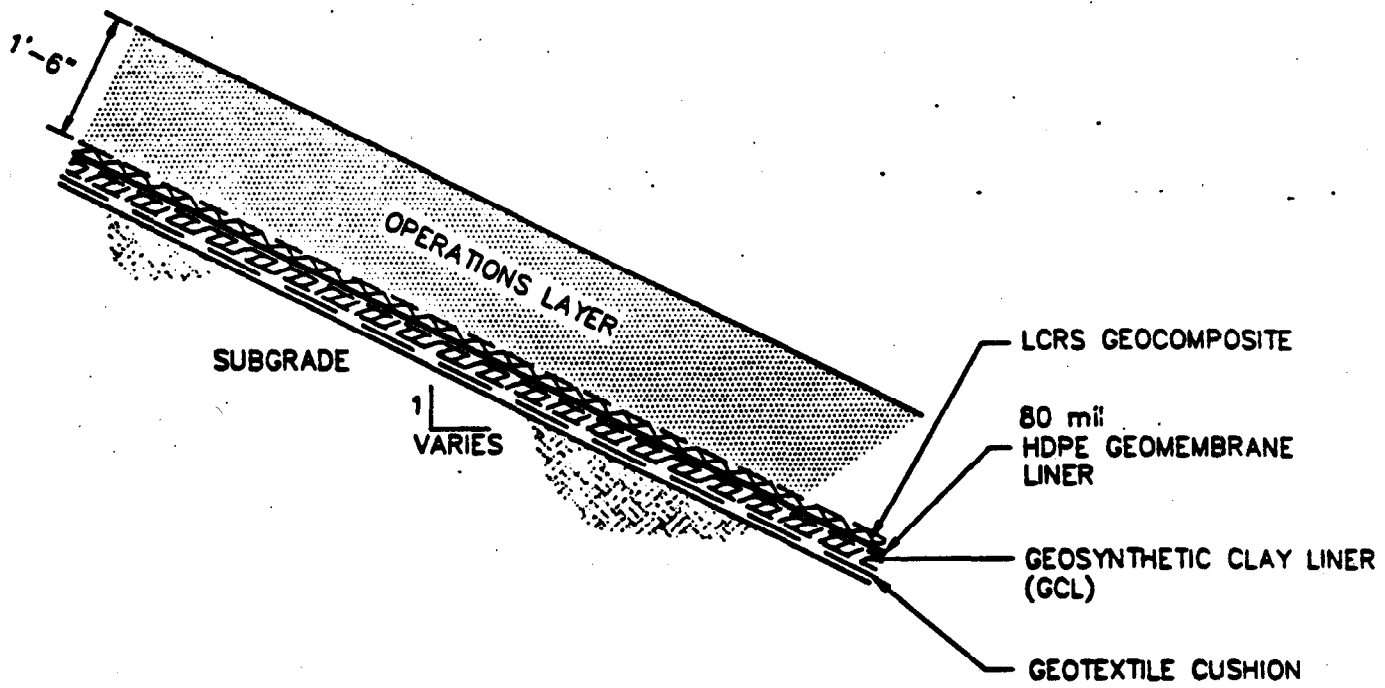
- EXISTING GROUND CONTOUR
- - - PERMITTED AREA X BOUNDARY
- ◄MW MONITORING WELL
- SP SPRING
- SV LEACHATE SUMP
- SV LEACHATE WELL
- SR SURFACE-WATER STATION
- UN UNDERDRAIN STATION
- LY LYSIMETER
- GROUND WATER TRENCH AND BARRIER
- - - FAULT, DASHED WHERE LOCATED APPROXIMATELY, DOTTED WHERE CONCEALED AND DOTTED WHERE EXISTENCE UNCERTAIN

## **NOTES:**

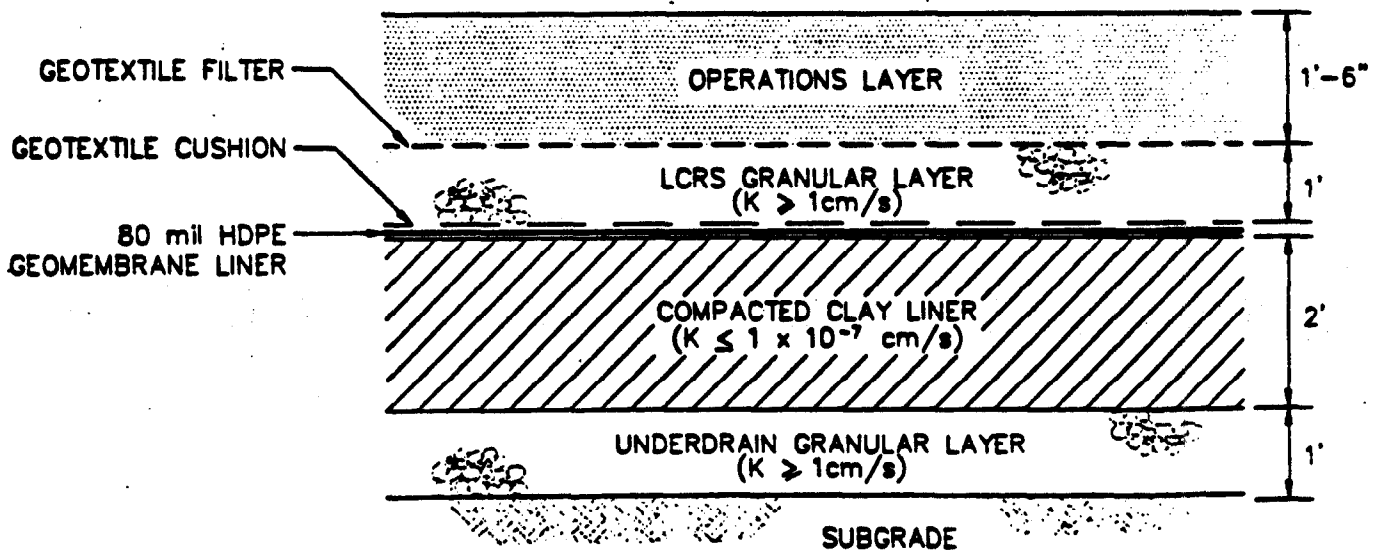
1. TOPOGRAPHIC DATA FROM 30 DECEMBER 1994 AERIAL PHOTOGRAPHY BY HAMMON, JENSEN, WALLEN & ASSOCIATES, INC. OF OAKLAND, CALIFORNIA.
2. ELEVATIONS ARE IN FT ABOVE MEAN SEA LEVEL, NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. GRID COORDINATES CORRESPOND TO THE CALIFORNIA COORDINATE SYSTEM - ZONE III.

450 225 0 450 900  
SCALE IN FEET

**FIGURE 4. MONITORING POINT MAP**



**FIGURE 5a. TYPICAL SIDE-SLOPE CONTAINMENT SYSTEM CONSTRUCTION REQUIREMENTS**



**FIGURE 5b. MINIMUM FLOOR CONTAINMENT SYSTEM CONSTRUCTION REQUIREMENTS**

NOT TO SCALE

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**SELF-MONITORING AND REPORTING PROGRAM**

**FOR**

**VASCO ROAD SANITARY LANDFILL  
CLASS III SOLID WASTE DISPOSAL SITE**

**ALAMEDA COUNTY**

**ORDER NO. 96-041**

**CONSISTS OF**

**PART A**

**AND**

**PART B**

## **PART A**

### **A. GENERAL**

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16.

The principal purposes of a self-monitoring and reporting program are: (1) to document compliance with Waste Discharge Requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the discharger in complying with the requirements of Article 5, Chapter 15.

### **B. SAMPLING AND ANALYTICAL METHODS**

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA or Standard Methods and in accordance with a sampling and analysis plan approved by the Board.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

### **C. DEFINITION OF TERMS**

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, and the surface runoff from the site are considered receiving waters.

**3. Standard observations, at the time of monitoring or in the event of unanticipated discharge, refer to:**

**a. Receiving Waters**

- 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
- 2) Discoloration and turbidity: description of color, source, and size of affected area.
- 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 4) Evidence of beneficial use: presence of water associated wildlife.
- 5) Flow rate.
- 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

**b. Perimeter of the waste management unit.**

- 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 3) Evidence of erosion and/or daylighted waste.

**c. The waste management unit.**

- 1) Evidence of ponded water at any point on the waste management facility.
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 3) Evidence of erosion and/or daylighted waste.
- 4) Standard Analysis (SA) and measurements include:
  - a. pH (EPA Method 9040)
  - b. Electrical Conductivity (EC) (EPA Method 9050)
  - c. Total Dissolved Solids (TDS) (EPA Method 160.1)
  - d. Total Phenols
  - e. Chloride (EPA Method 300)
  - f. Total Organic Carbon
  - g. Nitrate Nitrogen (EPA Method 300)
  - h. Total Kjeldahl Nitrogen
  - i. Water elevation in feet above mean sea level
  - j. Settleable Solids ml/l/hr
  - k. sulfate (EPA Method 300)
  - l. 47 VOCs (EPA Method 8260)

#### **D. SAMPLING, ANALYSIS, AND OBSERVATIONS**

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Chapter 15, Section 2550.7(b) and
2. Surface water per Chapter 15, Section 2550.7(c)

and per the general requirements specified in Section 2550.7(e) of Article 5, Chapter 15.

#### **E. RECORDS TO BE MAINTAINED**

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and laboratory reporting limits for each analysis.

#### **F. REPORTS TO BE FILED WITH THE BOARD**

1. The Annual Self-Monitoring and Reporting Program report shall be filed by October 30. The annual report can be combined with the discharger's summer/fall semiannual report. The semi-annual self monitoring reports shall be filed on April 30th and October 30th. Quarterly reports shall be filed on January 30th, April 30th, July 30th, and October 30th. Monthly reports shall be filed by the 10th day of the month following the month of interest. The reporting period: means the duration separating the submittal of a monitoring report from the time the next iteration of that report is scheduled for submittal.



The semi-annual reports shall be comprised of at least the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each submittal. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each semi-annual monitoring report shall include a compliance evaluation summary. The summary shall contain:

- 1) Groundwater flow and direction: A description and graphic presentation of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.
- 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, well recovery time, and method of disposing of the purge water.
- 3) A written discussion of the groundwater analyses indicating any change in the quality of the groundwater.
- 4) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

- c. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.
- d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
- e. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.
  - 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA Methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.
  - 2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical reporting limits; the recovery rates; an explanation for any recovery rate that is less than 80% or greater than 120%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.
- f. An evaluation of the effectiveness of the leachate detection/collection, monitoring, control, and removal facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal/treatment methods utilized.
- g. An evaluation of the effectiveness of the groundwater underdrain detection, monitoring, control, and removal facilities, which includes an evaluation of fluid buildup within this system, a summary of fluid volumes removed, and a discussion of the disposal/treatment methods utilized.
- h. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.
- i. The quantity and types of wastes disposed of during each quarter of the reporting period, and the locations of the disposal operations. Locations of waste placement shall be depicted on a map showing the area, if any, in which filling has been completed during the previous calendar year.

SMRP5

- j. A summary statement describing the findings from the discharger's: periodic load checking/screening program, program for restricting designated waste to Disposal Unit 6 and similarly designed units, and waste characterization program.
- k. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 3 1/2" computer data disk, MS-DOS ASCII format, tabulating the year's data.
- l. The Annual Monitoring Report shall be submitted to the Board covering the previous monitoring year. The report shall contain:
  - 1. A Graphical Presentation of Analytical Data [§2550.7(e)(14) of Article 5]. For each Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point, at a scale appropriate to show trends or variations in water quality. All graphs for a given constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation [§2510(d)(2)], the results of which will determine whether or not a release is indicated;
  - 2. A tabular summary of all the monitoring data obtained during the previous year;
  - 3. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;
  - 4. A map showing the area, if any, in which fill has been completed during the previous calendar year; and
  - 5. A written summary of the groundwater analysis from the previous year indicating any change in the quality of the groundwater; and,
  - 6. An evaluation of the effectiveness of the leachate monitoring/control facilities.

## 2. CONTINGENCY REPORTING

- a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:
  - 1) a map showing the location(s) of discharge;
  - 2) approximate flow rate;
  - 3) nature of effects; i.e. all pertinent observations and analyses; and
  - 4) corrective measures underway or proposed.

- b. A report shall be made in writing to the Board within seven days of determining that a statistically significant difference occurred between a downgradient sample and a WQPS. Notification shall indicate what WQPS(s) has/have been exceeded. The discharger shall immediately resample at the compliance point where this difference has been found and re-analyze.
- c. A report shall be made by telephone of any requirement violation(s) immediately after it is discovered. A written report shall also be filed within seven days that includes a discussion of the requirement violation(s), and actions taken or planned for correcting the violation(s).
- d. If resampling and analysis confirms the earlier finding of a statistically significant difference between monitoring results and WQPS(s) the discharger must submit to the Board, an amended Report of Waste Discharge as specified in Section 2550.8(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 2550.9 of Chapter 15.
- e. Within 180 days of determining statistically significant evidence of a release, submit to the Board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 2550.10. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

## Part B

### **1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS**

#### **A. WASTE MONITORING - Observe monthly, Report quarterly**

1. Record the total volume and weight of waste in cubic yards and tons disposed of at the site during each month showing locations and dimensions on a sketch or map.
2. Record a description of waste stream to include percentage of waste type (i.e. municipal solid waste, construction and demolition waste, and industrial waste including (i) asbestos, (ii) ash, (iii) TASW, (iv) petroleum contaminated soil, (v) lead contaminated soils, (vi) sewage and wastewater treatment sludges with metal content, (vii) industrial sludges, and (viii) industrial filters.
3. Record location and aerial extent of disposal of waste, with map locations.
4. Remaining landfill capacity/waste volume in place ;

#### **B. FACILITIES MONITORING - Observe quarterly, report annually**

The discharger shall inspect all facilities to ensure proper and safe operation. The facilities to be monitored shall include, but not be limited to:

1. Leachate Collection and Removal Systems;
2. Surface water retention basins;
3. Landfill subdrain/groundwater removal system;
4. Interior landfill drainage/berm system;
5. Leak detection system (where applicable);
6. Leachate management facilities and secondary containment; and
7. All other surface water runoff containment structures.

#### **C. PHOTODOCUMENTATION OF FACILITIES MONITORING - Observe quarterly and report annually**

The discharger shall provide photodocumentation of conditions at locations that include, but are not limited to, the landfill facilities listed in Part B, 1.B. above. Locations from which photographs are taken should be permanent stations such that they can be used for successive reports.

#### **D. ON-SITE OBSERVATIONS**

<b>STATION</b>	<b>DESCRIPTION</b>	<b>OBSERVATIONS</b>	<b>FREQUENCY</b>
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly observations, Report quarterly
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Weekly observation, Report quarterly

A map showing visual and perimeter compliance points ( V and P stations) shall be submitted by the discharger along with the quarterly monitoring report.

#### **E. SEEPAGE MONITORING**

Seepage monitoring stations include stations S, CU, and CD and any point at which seepage is found occurring from the disposal area. The landfill perimeter shall be monitored according to the following; with the results reported quarterly.

<b>STATION</b>	<b>DESCRIPTION</b>	<b>OBSERVATION</b>	<b>FREQUENCY</b>
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area	Standard observation for the perimeter and standard analysis other than "i" (perform analysis once per seep)	Daily until remedial action is taken and seepage ceases.

CU-1 thru CU-'n' (upstream)	Located in the main valley drainage 200     for the feet upstream from the upper- most point of seepage discharge(s)	Standard observation for the receiving waters and standard analysis other than "i"(perform analysis once per seep)	Daily during a seepage event
CD-1 thru CD-'n' (downstream)	Located in the main valley drainage 200     for the feet downstream from the seepage discharge(s)	Standard observation for the receiving waters and standard analysis other than "i"(perform analysis once per seep)	Daily during a seepage event

#### F. SURFACE WATER MONITORING

Surface water stations SR-1 and SR-2 shall be **sampled monthly** if water is present from October 15 through April 15, within two hours of the beginning of the first storm or as soon as sufficient water is available for sampling. SR-1 and SR-2 shall be **sampled quarterly** if water is present from April 16 through October 14. The sampling event results shall be reported semi-annually.

##### Description of Monitoring Points:

- SR-1: Is located at the toe of the existing landfill, downstream of the existing collection trench.
- SR-2: Is located near the intersection of Vasco Road and the landfill entrance road where the runoff from the landfill leaves the concrete lined channel that discharges into the creek along Vasco Road.

Stations SR-1 and SR-2 shall be sampled for nitrate, TDS , TSS, Total Oil and Grease, Total Petroleum Hydrocarbons (SM Method 5520BF). Stations SR-1 and SR-2 are also sampled according to the landfill's NPDES requirements.

**G. GROUNDWATER MONITORING**

Groundwater samples are to be collected semiannually from wells MW-13, MW-17, MW-27, MW-29, MW-32, MW-36, MW-37, MW-39, MW-42, MW-48, and MW-54 are to be sampled and analyzed according to Table A-1.a.

DU-4 lysimeters: LY-1, LY-2 and LY-3 are to be sampled and analyzed semiannually according to Table A-1.a.

Spring MW-1492 is to be sampled and analyzed semiannually according to Table A-1.b.

**Monitoring Well Descriptions:**

- Bedrock background wells: MW-36, MW-37, MW-42 and MW-48
- Bedrock downgradient wells: MW-17, MW-29, and MW-39
- Alluvium background wells: MW-13
- Alluvium downgradient wells: MW-27, MW-32, and MW-54

The above listed monitoring wells are to be sampled and the data submitted for all Subtitle D Appendix II constituents by October 30, 1996, October 30, 2001, October 30, 2006...., and every five years thereafter.

**H. PIEZOMETER MONITORING**

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
PZ-1 thru PZ-'n'	Piezometric monitoring point levels to the nearest 1/100 ft	Piezometric	Once per quarter report semiannually

**I. QA/QC SAMPLE MONITORING**

The discharger shall collect duplicate, field blank and equipment blank groundwater samples for each semiannual monitoring event. The duplicate sample shall be monitored for: pH, chloride, TDS, nitrate, sulfate, and VOCs; the field and equipment blank for VOCs by EPA Method 8260; and, the trip blank for VOCs by EPA Method 8240 or 8260.



**J. LEACHATE MONITORING**

The following leachate monitoring locations are included in the leachate monitoring program: SV-1, SV-2, SV-3, SV-4, and LW-1 shall be monitored as indicated below.

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
L-1	Leachate	Volume of	See below
thru	control	leachate	
L-'n'	facilities	built up at	
	including	base of landfill,	
	sumps and wells	and volume	
	to be installed	removed	

1. Leachate will be removed daily from leachate sumps SV-1, SV-2, SV-3, and SV-4 by dedicated automated leachate pumps. Current leachate sumps, and leachate sumps and wells to be installed shall be pumped to the lowest possible level daily, and will be verified to have been pumped dry weekly. The leachate collection and removal systems shall be inspected daily. *mid April 1994 complete installation*
2. Leachate shall be analyzed for chemical constituents on a quarterly basis (according to Table A-1.c) and the results reported quarterly.
3. For leachate monitoring points/sump SV-1, SV-2, SV-3, and SV-4 the discharger shall include in a monthly report a measurement of the estimated volume of leachate collected, and method of leachate disposal. The Discharger shall report daily, weekly, monthly, and average daily leachate rates for each leachate sump.
4. Collected leachate shall be transported to a wastewater treatment facility for disposal.
5. For leachate well LW-1 (located near Pond #3) the discharger shall include in a monthly report a measurement of leachate depth, estimated volume of leachate collected, and method of leachate disposal. The Discharger shall report daily, weekly, monthly, and average daily leachate rates for the sump. The leachate wells shall be sounded on a weekly basis. Accumulated leachate shall be removed whenever a pumpable level of leachate accumulates in the well.

**K. LANDFILL GAS CONDENSATE**

Landfill gas condensate removed from the landfill's gas collection system shall be transported for disposal at a wastewater treatment plant. For each condensate monitoring point the discharger shall include in the quarterly report a measurement of the estimated volume of condensate collected, and the monthly and average daily condensate volumes for each condensate collection point.

**L. GROUNDWATER COLLECTION TRENCH AND BARRIER**

The volume of groundwater automatically recovered from the Groundwater Collection Trench and Barrier (GCTB) will be recorded monthly. The discharger shall include in the quarterly report a measurement of the estimated volume of groundwater collected, and the monthly and average daily groundwater volumes for the GCTB.

**M. WATER STORAGE TANK MONITORING:**

Groundwater collected from the GCTB is stored in the water tank. The tank shall be monitored semiannually for the following: TDS (by EPA Method 160.1), VOC's (by EPA Method 8240) and Semi-VOCs (by EPA Method 8270). The results shall be reported semiannually. Groundwater removed from the storage tank will be used for dust control within the landfill waste boundaries. Additional dust control sources include Pond #1 and the water supply from the City of Livermore.

**N. DISPOSAL UNIT 6 UNDER DRAIN MONITORING:**

The underdrain system (Underdrain #1 and #2) for DU-6 shall be monitored twice per month (on or near the second and fourth week of each month) for flow. Groundwater samples will be collected twice monthly if flow is present and analyzed for the following: pH (EPA Method 9040), Chloride (EPA Method 300), nitrate as nitrogen (EPA Method 300), sulfate (EPA Method 300), TDS (EPA Method 160.1) and VOCs (EPA Method 8260).

**O. TREATED AUTO SHREDDER WASTE MONITORING**

Each lot (approximately 1000 tons per lot) of TASW shall be sampled weekly for: PCBs (EPA Method 8080), and for soluble lead and mercury (by WET Method). Quarterly the discharger shall perform WET analysis on cadmium, trivalent and hexavalent chromium, copper, lead, mercury, nickel, and zinc. PCB analysis shall also be performed quarterly.

**P. DISPOSAL UNIT 6 SLOPE MONITORING**

DU-6 slopes shall be monitored according to the discharger's August 14, 1995 slope monitoring submittal.

**Q. ALTERNATE DAILY COVER PAD AREA**

The discharger uses a mixture of various sludges and ash for alternate daily cover (ADC) at the landfill. The ADC pad area is used to prevent runoff from the ADC processing area from impacting state waters. Runoff from the ADC pad will be collected and deposited in a Subtitle D lined unit, or used as a moisture conditioner for the sludge and ash mixture.

**TABLE A-1**  
**SELF-MONITORING AND REPORTING PROGRAM -LIST OF ANALYTICAL**  
**PARAMETERS FOR**  
**THE VASCO ROAD SANITARY LANDFILL**

a.  
 MW-13, MW-17, MW-27, MW-29, MW-32, MW-36, MW-37, MW-39, MW-42, MW-48, MW-54 , LY-1, LY-2 and LY-3

PARAMETERS	EPA METHOD	SAMPLING FREQUENCY
pH	9040	semi-annually
Chloride	300	"
TDS	160.1	"
Nitrate as nitrogen (NO <sub>3</sub> -N)	300	"
Sulfate (SO <sub>4</sub> )	300	"
VOCs	8260	"

b.  
 SPRING MW-1492

PARAMETERS	EPA METHOD	SAMPLING FREQUENCY
pH	9040	semiannually
Chloride	300	"
TSS	160.2	"
TDS	160.1	"
Nitrate as nitrogen (NO <sub>3</sub> -N)	300	"
Sulfate (SO <sub>4</sub> )	300	"
Arsenic	7060	"
Cadmium	6010	"
Chromium-dissolved	6010	"
Copper	6010	"
Lead	6010	"
Mercury	7470	"
Nickel	6010	"
Silver	6010	"
Zinc	6010	"

c.  
LEACHATE COLLECTION SUMPS SV-1, SV-2, SV-3 and SV-4

PARAMETERS	EPA METHOD	SAMPLING FREQUENCY
pH	9040	semiannually <i>KyH revise</i>
EC	120.1	"
TSS	160.2	"
Cyanide	335.2	"
Total Oil and Grease	SM 5520B	"
PCBs	8080	"
VOCs	8240	"
Semi-VOCs	8270	"
Arsenic	7060	"
Cadmium	6010	"
Chromium-dissolved	6010	"
Copper	6010	"
Lead	6010	"
Mercury	7470	"
Nickel	6010	"
Silver	6010	"
Zinc	6010	"

*next time  
see  
pg 12 #2*

I, Loretta K. Barsamian Executive Officer, hereby certify that the foregoing Self-Monitoring and Reporting Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 96-041
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Date Ordered: March 20, 1996

*Loretta K. Barsamian*  
Loretta K. Barsamian  
Executive Officer

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